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7. CANNIBALISM IN WOOLLYNECKED STORK *CICONIA EPISCOPUS*

Cannibalism has been observed in the family Ciconiidae, but this behaviour has never been reported for the woollynecked stork *Ciconia episcopus*. I observed this strange behaviour while studying the breeding biology of the woollynecked stork in Keoladeo National Park, Bharatpur, India.

In India, the woollynecked stork starts breeding with the onset of monsoon. I observed breeding from 1994 to 1996, In 1996, the nest under observation was at a height of 3 m from the ground on a kadamb tree (*Mitragyna parvifolia*) and observations were taken from a hide 10 m away. I could identify the sexes by their behaviour and facial markings. The male had a dark face with dark black lines around the eyes, while the female was lighter in colour. Both parents shared incubation and collection of nesting material. On 1 August 1996, the eggs began to hatch after 30 days of incubation. There were three nestlings in the nest with three days interval from first to last hatching. The eldest nestling was dominant in picking up the food regurgitated by the adults on the nest floor. On 24 August 1996, the nest was observed for 11 hours but the youngest nestling could not be seen for the whole day, even when the adults came to feed them. In order to determine whether the smallest chick was missing, I climbed the tree and observed the nest from a high branch. The youngest chick was lying dead on the nest floor, while the two elder chicks sat quietly.

I could not go to the nest the next day due to continuous rain. A day later, I reached the hide at 0620 hrs and saw the dead nestling's body, which had started decomposing, dangling on the rim of the nest. A few minutes later, the male fed the two nestlings on what appeared to be dead bird material and was clearly not the usual food such as earthworms, amphibians or fish.

The adult male stood on the nest. When two house crows (*Corvus splendens*) tried to take the dead nestling, the adult successfully threatened them by raising the feathers of the head and foreneck, thus appearing very large.

At 0645 hrs the adult male started pulling at the head of the dead nestling, which was covered with a thick swarm of flies. Whenever the adult tried to pull it, hundreds of flies flew off with a buzzing sound. As the dead body of the nestling was entangled in the long sticks of the nest, it could not be pulled out. After some time, the female came with leaves of jamun (*Syzigium cumini*) and arranged them on the nest floor. In the meanwhile, the male flew away. The female also tried to remove the dead nestling and at 0759 hrs succeeded. The female immediately ate the head of the nestling. This confirmed that the dead bird fed earlier to the nestlings had been the dead chick. Soon the female left the nest. The male arrived at 0805 hrs with nesting material. At 0844 hrs the female again brought jamun leaves to the nest and arranged them on the nest, while the two nestlings begged for food. Almost immediately, she regurgitated the whole head on the nest floor, and it was immediately swallowed up by the elder nestling.

This may be a case of induced cannibalism and several factors could be responsible. For instance, if the adults had discarded the entangled dead nestling , it would have attracted predators such as crows and raptors. To avoid the chances

of predation on other nestlings, the adult could have eaten it.

It is interesting that when the body was decomposing, the female began lining the nest with *Syzigium cumini* leaves which are strongly aromatic.

In the light of this case of cannibalism, previous observations are noteworthy. In July 1995, while monitoring the reproductive success of colonial breeders, I observed an openbill stork (*Anastomus oscitans*) throwing a less than one month old dead nestling out of the nest.

In January 1997, one juvenile woolly-necked stork and one juvenile of blacknecked stork (*Ephippiorhynchus asiaticus*) died in the nest at ages of 40 and 50 days respectively. In both instances the adults did not eat the dead juvenile. The bodies of the two juveniles decomposed in the nests.

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FARAH ISHTIAQ
Centre of Wildlife & Ornithology
Aligarh Muslim University
Aligarh-202 002, India.

8. INDIAN SHIKRA PREYING ON SHORT-NOSED FRUIT BATS

While conducting a survey of small mammals as part of our EIA studies at the lignite mines of Neyveli, Madras during May-June 1996, we recorded an interesting observation on the Indian shikra, *Accipiter badius* feeding on short-nosed fruit bats, *Cynopterus sphinx*.

On the evening of 3rd June, we set six mist nets on the edge of the pond in the afforestation area of Mine I to collect the bats. At 1915 hrs we saw several bats emerging out of their roosts from the nearby forest and flying around the pond. The size of the bats prompted us to classify them as fruit bats, though the exact identification of the bats was not possible. The bats kept flying above the water for about half an hour, diving intermittently to sip some water, and finally they flew away. We did not succeed in catching any bats then. At about 2230 hrs. we saw bats coming to the pond once again and flying around. Again, there was no score in the nets. We left the nets overnight and returned to our camp.

The next day, at about 0630 hrs we saw eight fruit bats in the nets. We released them in the nearby bushes after identifying them as short-nosed fruit bats *Cynopterus sphinx*. As we were winding out the mist nets we saw one of the fruit bats rushing out of the bush and flying across the pond.

A crow was chasing the bat. As the chase was on, we saw a pair of shikra *Accipiter badius* emerging from another tree nearby, chasing the crow. While one of the shikras was chasing the crow, the other followed the bat which was flying above the pond in a zig-zag fashion. After a struggle of about 10 minutes, the shikra succeeded in capturing the bat. The pair returned to the tree and started feeding on the bat.

As we were winding out the last mist-net, we saw yet another bat coming out of the bush and flying above the pond. This time the second shikra of the same pair followed the bat and captured it within no time.

Shikra are known to feed on a variety of insects, lizards, small birds and mammals such as field rats, mice and striped squirrels (Ali and Ripley 1969). However, they have